REMARKS

Claims 9-41 and 47-69 are pending in the application with new claims 60-69 added herein. Applicant expresses appreciation for the indication that claims 19, 20, 23, 24, 34, 36, 49, and 51 set forth allowable subject matter.

The Office Action withdraws claims 52, 53, 55-57, and 59 from consideration and makes final the previous species restriction. Applicant reiterates that such restriction is clearly and unmistakeably faulty and in direct contradiction to established patent law. Applicant requests withdrawal of the restriction in the next Office Action along with consideration of claims 52, 53, 55-57, and 59. Page 2 of the Office Action takes the untenable position that the first, second, and third species identified by the Office are mutually exclusive. Applicant notes that the Office Action states "the first specie is directed to a deposition process on a substrate having two surface [sic] with different deposition characteristics, the second specie is directed to a deposition process in a single deposition chamber, and the [third] specie is directed to a deposition process in two deposition chambers."

Applicant notes it is clearly apparent that the first specie is generic to the second and the third specie. That is, the first specie includes within its confines the organization covered in both the second specie and the third specie. A deposition process, according to the first specie, on a substrate having two surfaces with different deposition characteristics may be performed in a single deposition chamber, in accordance with the second specie. Also, a deposition process, according to the first specie, on a substrate having two surfaces with different deposition characteristics may be performed in two deposition chambers, in keeping with the third specie. Understandably then, Applicant's election of the first specie does not make possible

indication of claims readable only on one species since at least some of the claims readable on the first specie also read upon the second and/or third species and vice versa. Certainly, this fact alone should indicate that the present species restriction is improper.

Applicant previously identified claims readable on the first species merely to provide a complete reply and without admitting to the propriety of the restriction requirement. Applicant presumed, given the clear nature of the error in the restriction requirement, that the requirement would be withdrawn. Applicant never intended claims 52, 53, 55-57, and 59 to be withdrawn and never conceded to such claim withdrawal. Upon further consideration, Applicant herein asserts that all pending claims, including those withdrawn and new claims 60-69, read upon the first specie directed to a deposition process on a substrate having two surfaces with different deposition characteristics.

Claims 9-41, 47-51, 54, 58, and 60-69 expressly set forth limitations indicating that such claims read upon the first specie. Even though claims 52 and 56 do not expressly set forth such limitations, it is clear that both claims encompass within their confines the organization covered by the first specie. Claim 52 additionally is readable upon the second specie and claim 54 is additionally readable upon the third specie. As evidence of Applicant's assertion, claim 54 depending from claim 52 expressly sets forth limitations readable upon the first specie. Accordingly, claim 52 must comprehend within its confines the organization covered by the first specie. Similarly, claim 58 depending from claim 56 expressly sets forth limitations readable upon the first specie. Accordingly, claim 56 must comprehend within its confines the organization covered by the first specie. Applicant asserts that claims 53, 55, 57, and 59 also read upon the first

specie. As such, Applicant is entitled to consideration of the presently withdrawn claims in the next Office Action.

This assertion was not previously made since it would have amounted to listing all pending claims as readable on the first specie and would have risked the prior response be judged as non-responsive. Since more than adequate grounds were previously asserted to warrant withdrawal or revision of the species restriction, an assertion that all claims read on the first specie was also viewed as unnecessary.

Claims 9-18, 21, 22, 25-33, 35, 37-41, 47, 48, 50, 54, 58 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Zenke in view of Nogami. Applicant requests reconsideration.

Claim 9 sets forth a low selectivity deposition method that includes, among other features, forming a first part of nucleation layer on a first surface of a substrate, forming a second part of a nucleation layer on a second surface of the substrate, and forming a deposition layer substantially non-selectively on the first part of the nucleation layer compared to the second part. The first and second surfaces of the substrate exhibit a property of the deposition layer forming less readily on the first surface compared to the second surface. Page 3 of the Office Action alleges that Zenke discloses every limitation of claim 9 except for forming the nucleation layer and/or the deposition layer by ALD. The Office relies upon Nogami as allegedly disclosing the limitations absent from Zenke. Applicant traverses.

Page 3 of the Office Action alleges that the motivation for modifying Zenke to substitute the LP-CVD discussed in column 5, lines 44-61 of Zenke with the ALD of Nogami is that the Nogami ALD constitutes an art recognized suitable method to fulfill the purpose intended for the Zenke LP-CVD. However, regardless of whether the

Nogami ALD is an art recognized alternative to LP-CVD in general, Applicant asserts that the Nogami ALD is not an art recognized alternative to the Zenke LP-CVD. Accordingly, Applicant asserts that no motivation exists to modify Zenke in the manner alleged by the Office. Specifically, no motivation exists to form silicon nitride film 6 of Zenke by ALD on silicon nitride film 5 of Zenke. Forming silicon nitride film 6 of Zenke by the Nogami ALD cannot be considered as a recognized alternative to the Zenke LP-CVD.

As may be readily appreciated upon review of column 2, lines 23-31 and column 2, line 66 to column 3, line 12 of Zenke, the problem addressed by Zenke is unique to forming silicon nitride film 12 (or silicon nitride film 6) by LP-CVD. Further, the entire purpose of providing silicon nitride film 5 in the manner described in column 5, lines 44-61 of Zenke is to remedy the associated problems of forming silicon nitride film 12 (or silicon nitride film 6) by LP-CVD, as discussed in column 3, lines 47-53 and column 4, lines 37-43 of Zenke. That is, if silicon nitride film 12 (or silicon nitride film 6) is instead formed by some method other than LP-CVD, then the teaching of Zenke (and Nogami) is that the problems described in Zenke will no longer exist.

Thus, no motivation will exist to form silicon nitride film 5 beneath silicon nitride film 6 if silicon nitride film 6 is formed instead by ALD. The clear teaching of the cited references is that if silicon nitride film 6 is formed by the Nogami ALD method, then silicon nitride film 6 would be formed without silicon nitride film 5 therebeneath. Applicant asserts that no motivation exists to form the Zenke silicon nitride film 6 by the Nogami ALD method over the Zenke silicon nitride film 5. The clear teaching by Zenke is that forming the Zenke silicon nitride film 6 by the Nogami ALD method will eliminate the problems associated with forming the Zenke silicon nitride film 6 by the Zenke LP-

CVD. Those of ordinary skill would be motivated to avoid formation of unnecessary layers (such as silicon nitride film 5) and would not form the then obsolete silicon nitride film 5.

Applicant acknowledges that page 7, lines 4-20 and elsewhere throughout the present specification disclose that ALD can be complicated by thickness variations caused by changes in composition and/or surface properties of an underlying substrate. However, only Applicant's own specification and not the prior art recognizes such disadvantage of ALD. Applicants acknowledge that judgments on obviousness may necessarily involve a reconstruction based in a sense on hindsight reasoning. However, such reconstruction can only take into account knowledge that was within the level of ordinary skill in the art at the time the claimed invention was made and cannot include knowledge gleaned only from Applicant's disclosure. In re McLaughlin, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971); MPEP 2145(X)(A).

Accordingly, only the Applicant's own specification, and not the cited art, recognizes that a nucleation layer as set forth in claim 9 may be advantageously formed beneath a chemisorbed first specie layer. As such, Applicant persists in the assertion that no motivation exists to form the Zenke silicon nitride film 6 by the Nogami ALD method on the Zenke silicon nitride film 5. The Nogami ALD method is not a method suitable for the intended purpose of forming the Zenke silicon nitride film 6 on the Zenke silicon nitride film 5 since using such method would produce an unnecessary layer (silicon nitride film 5), according to the express teachings of Zenke in view of Nogami. Only the Applicant's own specification recognizes the advantages of the method alleged by the Office to be suggested in the prior art. At least for such reasons, claim 9 is patentable over the cited combination of references.

Claims 10-30 and 60-64 depend from claim 9 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested. For example, claim 62 sets forth non-selective CVD process parameters and claim 63 sets forth non-selective ALD process parameters. The subject matter of claim 62 is supported at least by page 19, line 3 to page 20, line 23 of the present specification. The subject matter of claim 63 is supported at least by page 16, line 14 to page 17, line 10 of the present specification. Neither Zenke nor Nogami considered alone or in combination disclose or suggest the subject matter of claim 62 and 63. Also, claim 65 sets forth that forming the first and second parts of the nucleation layer occurs simultaneously and includes depositing a complete nucleation layer in a single deposition. The complete nucleation layer and the combined first and second specie layers consist essentially of same components in approximately same proportions. The subject matter of claim 65 may be contrasted with the teachings in column 5, lines 44-60 of Zenke describing formation of silicon nitride film 5 by first depositing silicon film 4 and then annealing in an ammonia or nitrogen gas atmosphere. Further, claim 60 sets forth that the nucleation layer includes aluminum oxide and claim 61 sets forth that the nucleation layer includes tantalum oxide. Neither Zenke nor Nogami disclose or suggest silicon nitride film 5 including aluminum oxide or tantalum oxide.

As may be appreciated from the above discussion regarding the deficiencies of Zenke in view of Nogami as applied to claim 9, claims 31-41, 47-59, and 66-69 are also patentable.

Applicant herein establishes adequate reasons supporting patentability of claims 9-41 and 47-69 and requests allowance of all pending claims in the next Office Action.

Further, Applicant herewith submits a Supplemental Information Disclosure

Statement and Form PTO-1449 of which it does not yet have an initialed copy from the Examiner. This Supplemental Information Disclosure Statement was initially submitted to the U.S. Patent and Trademark Office on January 20, 2004. To the extent the PTO-1449 has not already been initialed in the file, such examination and initialing is requested at this time, and returning of a copy to the undersigned.

Respectfully submitted,

Dated: 20 Jul 2004 By: _____
James E. Lake
Reg. No. 44,854